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Expert Group Meeting on the Restructuring
of the Non-ferrous Metals Industries

Vienna, Austria, 18-21 March 1985.

REPORT*

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INTRODUCTION

1. The Expert Group Meeting on the Restructuring of the Non-ferrous Metals Industries was convened at Vienna, Austria, from 18 to 21 March 1985. The meeting was attended by 13 participants and 4 observers from 11 countries, 2 inter-governmental organizations, 1 non-governmental organization, and 1 United Nations body (see Annex I).

Background

2. In the Lima and New Delhi Declarations, the full sovereignty over natural resources and effective control over their exploitation, transformation and marketing were considered to constitute for developing countries an indispensable condition for economic and social progress[1/].

3. The Lima and New Delhi Plans of Action stressed the importance of developing countries achieving a progressively higher degree of domestic processing of their national resources[2/]. At the Fourth General Conference of UNIDO, it was stated that mineral processing promotes economic development and that, due to the process of restructuring that is taking place at the world-wide level, domestic processing of minerals in developing countries appears to be the trend of the 1980s.

4. The Industrial Development Board, at its seventeenth session in 1983, requested the Executive Director to start preliminary preparations for the possible holding of the First Consultation on the Non-ferrous Metals Industries during the 1986-1987 biennium[4/].

1/ Lima Declaration and Plan of Action, March 1975, PI/38, para. 34; New Delhi Declaration and Plan of Action, February 1980, PI/72, para. 49.

2/ PI/38, para. 58(e); PI/72, para. 32.

3/ Fourth General Conference of the United Nations Industrial Development Organization, Item 5(f), Policies and Measures for Domestic Industrial Processing of Raw Materials in Development Countries (ID/CONF.5/12), paras. 18, and 119.

4/ Official Records of the General Assembly, Thirty-eighth Session, Supplement No. 16 (A/38/16), para. 76(3).

5. As a first step in preparation for the First Consultation on the Non-ferrous Metals Industries, UNIDO decided to convene the Expert Group Meeting in order to seek the advice of participants on the selection of key aspects to be considered at that Consultation.

Objectives

6. The objectives of the meeting were:

(a) to analyse the new patterns of development of the non-ferrous metals industries and the strategies of the main actors, within the context of the global restructuring process that is taking place in the world economy;

(b) to identify the possibilities, advantages and obstacles for a further processing of non-ferrous minerals in the developing countries that would lead to a more integrated and self-reliant development;

(c) to identify key issues that could be discussed at the First Consultation on the Non-ferrous Metals Industries.

Documentation

7. Each participant was requested to write a short paper (10 pages) about the situation of the non-ferrous metals industry in his/her country, in order to provide the meeting with further background information on which to base its discussions and help it to achieve its objectives. The outline of the main points for inclusion in the country papers that were sent to participants is given in Annex II. The documents issued for the Expert Group Meeting are listed in Annex III.

I. AGREED CONCLUSIONS AND RECOMMENDATIONS

8. In the light of the overall goals, objectives and themes examined by the first meeting of experts on the restructuring of the non-ferrous metals industries, the following conclusions and recommendations were reached:

(a) There is a need to analyse the possibilities for a greater degree of processing of non-ferrous metals in the developing countries within the framework of an overall concept of national, sub-regional and regional development that takes account of the inter-relations of the non-ferrous metals industries with other related industrial sectors, such as capital goods, iron and steel, construction, etc.;

(b) There is a need to promote, within the context of an overall process of industrialization at the national, sub-regional and regional levels, integrated forms of development of the non-ferrous metals industries which are based on a detailed understanding of the ways in which the demand for final products affects the productive processes. Within this perspective of development, there is a need to define the type and degree of integration of the non-ferrous metals industries that is desirable and possible at the national, sub-regional and regional levels, as well as to examine the possibilities for most effectively using the international markets;

(c) Because not all non-ferrous metal products can, in the near- and medium term, be effectively utilized in the producing countries and regions, it will be necessary to promote the expansion of national and regional markets, in addition to developing and expanding new uses of such products world-wide. In this context, attention should be given to recently developed and new approaches, including for example, the location of certain joint processing and manufacturing plants in the principal consuming countries, where appropriate and feasible, with the aim of removing barriers to sales in such markets and thereby gaining technological and managerial expertise.

(d) Because of the changes in investment patterns which have appeared in the non-ferrous metals sector and the current severe restrictions on foreign exchange which developing countries are experiencing, there is a need to put into practice new methods of financing, which will permit a more effective use of the resources available to developing countries;

(e) There is a need to examine and develop, in each of the non-ferrous metals industries, alternative technologies and practices which are appropriate to the scale of developing countries' economies and to the level and type of resources available to such countries, and which protect the environment and the health and safety of workers;

(f) There is a need to examine past and present efforts of co-operation and to put into practice new forms of co-operation among developing countries and between developing and developed countries, in order to promote a more effective process of integrated industrial development in the developing world, taking due consideration of the developed countries' need for security of supply;

(g) The possibility and desirability of centralizing information available within the United Nations system in the field of non-ferrous metals should be analysed with the aim of avoiding duplication of effort and achieving the maximum feasible dissemination of information which may already be available within the system;

(h) As part of the process of preparation for the First Consultation on the Non-ferrous Metals Industries, UNIDO should promote closer relations with the producer associations in the non-ferrous metals field.

(i) UNIDO, in its preparations for the First Consultation on the Non-ferrous Metals Industries, should sponsor meetings of experts at the sub-regional and regional level, with the aim of examining the possibilities, advantages and barriers to an integrated and more self-reliant development of the non-ferrous metals industries at the sub-regional and national levels, as well as examining new forms of co-operation, financing and alternative technologies;

(j) UNIDO should prepare appropriate documentation for the expert meetings and, in this context, should co-ordinate its efforts with universities and other institutions which are undertaking work in the non-ferrous metals sector at the global, regional and sub-regional levels.

II. ORGANIZATION OF THE MEETING

Opening of the meeting

9. The Expert Group Meeting was opened by the Head of the Negotiations Branch of UNIDO. He described UNIDO's mandate under the Lima Declaration and Plan of Action to establish a System of Consultations[5/] and outlined the main principles, objectives and characteristics of the System.[6/] He pointed out that Consultations should be seen as a process designed to achieve the objectives of industrialization in the developing countries, as defined in the Lima Declaration and Plan of Action. The initial steps in that process consisted of analysing the structure, changes in the structure, problems and prospects for development of a specific industrial sector, as well as the strategies of the main actors and areas for international co-operation in the sector. Further steps were the elaboration of plans and programmes that could contribute through co-operation to the achievement of the development objectives defined for the sector.

10. He indicated that the discussions of this First Expert Group Meeting should not concentrate on specific technical problems or micro-economic aspects of the non-ferrous metals industries, but should aim at achieving a

5/ PI/38, op. cit., para. 26.

6/ See The System of Consultations (PI/84), paras. 1-24.

clear understanding of the non-ferrous metals sector as a basis for identifying potential areas for industrial co-operation. An important question on which the discussions should focus was an analysis of the possibilities, advantages and obstacles to a further processing of non-ferrous metals by developing countries and ways in which mineral processing could contribute to a country's industrial development. He stressed the importance of taking into account in the discussions the possibilities of developing an integrated approach that would permit a greater internal articulation of the non-ferrous metals industries with other key activities of the developing countries.

11. He pointed out that the non-ferrous metals industries and the industries and sectors linked with them constituted a subsystem of production that contained the main elements for the reproduction of the non-ferrous metals industries; therefore, an analysis of these industries had to consider the entire subsystem. The subsystemic analysis could make possible the achievement of a global understanding of the logic of development of the non-ferrous metals industries that a partial approach could not. The subsystemic approach would permit an analysis of the possibilities for co-operation that included all the main activities belonging to the non-ferrous metals sector and the other sectors linked with it. That was essential because the activities of the main actors (governments, state enterprises, TNCs, etc.) extended beyong the limits of the sector itself, and in some cases the principal areas for co-operation were not within the sector but in activities that were upstream, downstream or horizontally linked to the sector.

12. He emphasized that the different technical, social and economic aspects identified through the analysis of the subsystem had a different impact in the various developing countries, centrally-planned economy countries, and developed market economy countries. That analysis made possible the identification of similarities and differences within the same group of countries or between the various groups as well as the identification of the key elements that determined the strategy of the major protagonists. That analysis would permit the selection of areas and possible partners for co-operation.

Election of officers

13. Mr. Byron Blake (Jamaica), Director of the Economics and Industry Division of the Carribean Community Secretariat was elected Chairman; Mr. György Dobos (Hungary), was elected Vice-Chairman.

14. A drafting group was elected to prepare the draft conclusions and recommendations, composed of Messrs. C. Aguirre (Andean Group), A. Casal (Chile), M. Ericsson (Sweden), F. Gonzalez Vigil (Peru), P. Jourdan (Zimbabwe), and S. Zorn (USA).

Adoption of the agenda

15. The following agenda was adopted:

1. Opening of the meeting
2. Election of officers
3. Adoption of the agenda
4. Presentation by the UNIDO secretariat
5. Discussion and exchange of experience
6. Adoption of the conclusions and recommendations of the meeting

Adoption of the conclusions and recommendations

16. The conclusions and recommendations of the meeting were adopted by consensus at the closing session on 21 March 1985.

III. SUMMARY OF DISCUSSIONS

Presentation of the background and discussion papers

17. A member of the UNIDO secretariat presented the background paper (ID/WG.436/1) and discussion paper (ID/WG.436/3) prepared by the secretariat and outlined the main themes of the discussion: changes in the structure of the non-ferrous metals sector and prospects for the future; the possibilities, advantages and obstacles for further processing of non-ferrous metals by

developing countries; areas for international co-operation to promote a more favourable development of the sector and the identification of issues for consideration at the First Consultation.

18. A UNIDO consultant presented the background paper he had prepared entitled "Mining and Mineral Processing in Developing Countries" (ID/WG.436/2). He summarized the demand projections for non-ferrous metals to the end of the 1980s. He listed some of the factors influencing those projections, including the rate of economic growth in the developed countries, which were the main consumers of non-ferrous metals, the substitution of plastics and other materials for non-ferrous metals; the re-cycling of scrap metal in developed countries and its impact on traditional mining sources.

19. He also stressed the fact that a global analysis must involve careful examination of the unique situations of individual countries, each with its own resource endowment, market size, level of industrialization, etc. It would be possible to progress from an analysis of individual countries to an examination of possiblities for sub-regional and regional co-operation.

General discussion

20. Most participants agreed that demand for non-ferrous metals would grow very slowly in the short- and medium-term and that a compilation of global demand projections already made would give sufficient information so that it was unnecessary to make new ones at present. Several participants thought that most demand projections currently available were too optimistic, while a few participants thought that current demand predictions were too pessimistic. One participant thought it was necessary to reach agreement about probable demand levels up to the year 2000 in order for further discussions to be meaningful.

21. Further discussion about the question of demand centred around the possibilities for future demand growth in the developing countries and the need to increase demand by promoting greater use of non-ferrous metals, nationally, sub-regionally and regionally. One participant elaborated on the experience of the aluminium industry in his country which had been able to raise the per capita consumption of aluminium significantly by means of direct measures to promote its use.

22. It was pointed out that the rate of growth of demand, just as the rate of economic growth in a country, was not only dependent on international trends but was directly influenced by decisions taken in the country. Therefore, Governments of developing countries had a responsibility for deciding how to make best use of their resource endowments. They could be assisted by the elaboration of a typology of countries and appropriate strategies that took into account the differences in different sub-regions and between countries at different stages of development.

23. Several participants talked about the problems of over-capacity in the non-ferrous metals industries, pointing to capacity closures in the developed countries, and stating that future demand growth would be greatest in the developing countries. It was pointed out that questions such as capacity closures were decided both on a political and on a technical basis.

24. The question of prices was discussed. One participant said that it was important to devise mechanisms to obtain favourable prices on the world market. Another participant pointed out the difficulty of arriving at an objective determination of the value of a primary commodity which represented a non-renewable resource in a country. It was, therefore, necessary to examine the way in which prices were determined. He questioned the logic of applying one world market price to many different countries with different economic systems and socio-economic conditions.

25. The discussion of further processing of non-ferrous metals in developing countries began with an examination of the different roles that non-ferrous metals could play within the context of a development strategy oriented towards satisfying the most important needs of the population through an integrated development of agriculture and industry and the establishment of an autonomous basis of development. Such a strategy could be defined as the progressive construction of a coherent productive system in a country, or within a sub-region. It was that concept of development that was supported by the Lima Declaration and Plan of Action.

26. In the context of such a development strategy, non-ferrous metals could play three different roles. The first possibility was a direct role: the extraction and processing of the mineral in order to produce goods that form

part of the internal basis of development. The second possibility was an indirect role: non-ferrous metals were extracted, processed and sold on the world market to obtain foreign exchange to pay for necessary imports; that could also stimulate the development of other industries and create employment. The last possibility was the extraction of minerals and exporting them in their crude form, as ores or concentrates, in order to obtain foreign exchange to pay for imports. That was the most indirect role of non-ferrous metals in national economic and social development.

27. Many participants gave examples of the negative effects that had been observed in developing countries following a purely export-oriented strategy of non-ferrous metals development, whether the minerals were exported in a crude or processed form. Severe problems of indebtedness, falling prices and decreased demand for non-ferrous metals, rising costs of energy and of imports of capital goods, and rising interest rates all tended to cast serious doubts on the overall benefits to be gained from investing scarce capital in building up a processing capacity primarily for exports to the world market.

28. Some participants reported on the positive results that an integrated approach to the development of the non-ferrous metals sector had had in their countries, pointing out the stimulating effect on the expansion of infrastructure, the development of less developed regions of the country, and the development of related industrial sectors. It was pointed out that to achieve such a beneficial impact, it had been necessary to establish national and regional research facilities that made possible the development of technology suited to local conditions.

29. It was emphasized that there were several prerequisites in order for further processing of non-ferrous metals in developing countries to have a favourable impact. These were:

(a) an analysis of the unique situation of each country and each subregion in terms of its mineral and energy resources;

(b) an integrated approach to the development of the sector and the other economic sectors with which it is linked;

(c) consideration of possibilities for sub-regional and regional integration;

(d) consideration of the possibilities of obtaining the maximum value added and promoting employment in the country.

30. A careful analysis of the obstacles to further processing facing individual countries was necessary in order to identify such obstacles and elaborate ways to overcome them.

31. It was pointed out that the effective barriers to the export of processed metals to developed countries were not so much tariffs as non-tariff barriers.

32. The example of Japan was mentioned which exports non-ferrous metals in the form of finished goods, but the relevance of this example for the present state of development of the majority of mineral-exporting countries was questioned.

33. In this context, efforts to diversify production were essential, for example through the economic utilization of by-products or the use of polymetallic ores to produce new metals, as well as measures to develop further outlets, both domestically and internationally.

34. In the discussion of technology for the development of the non-ferrous metals sector, participants emphasized the necessity of using the most up-to-date scientific knowledge and research results to develop technologies that were appropriate to the socio-economic, technical, infrastructural and environmental conditions of specific developing countries and sub-regions.

35. The question of scale was discussed and the importance of developing technologies to make possible mining and processing operations on a scale suited to particular mineral deposits, size of the country and level of technical development.

36. It was pointed out that the choice of technology was a political decision and that an important objective for developing countries would be to have access to sufficient information and experience to enable them to choose the scale and technology that was best suited to a particular constellation of resources on the basis of a complete knowledge of all the alternative possibilities open to them.

37. It was generally agreed that patterns of investment in developing countries had changed greatly; that the direct foreign investment and commercial loans which had characterized investment in the 1960s and 1970s were no longer available, and that it was unlikely that they would become available in the current circumstances, although it was possible that in future foreign investment might increase in importance again.

38. It was suggested that the decline in national and regional capacity to finance investments could be counteracted by measures such as the establishment and expansion of regional joint financing institutions that could help to make capital available, to spread risks, to reduce reliance on commercial and global multilateral financing institutions, and to promote the use of local or regional currencies for such investments. It was pointed out that since the profits that could be realized from mining operations were very high, it should be possible to use them for financing further investments.

39. Among the suggestions for the establishment and expansion of new and improved forms of co-operation between developed and developing countries was co-operation based on buy-back or compensation arrangements, whereby part of the repayment of investment was in the form of the metal produced. Such long-term arrangements had the advantage of guaranteeing markets and stable prices for at least part of the output of metal.

40. Possibilities for forms of sub-regional or regional economic integration as a mode of co-operation among developing countries were discussed. Some of the problems reported included the complexities encountered in negotiating agreements, the difficulties of relations between unequal partners (in terms of size, resource endowments and state of development), and the effects of the economic crisis. Some of the successes reported included the establishment of

preferential trade areas and other measures to facilitate trade within a region by reducing the reliance on hard currency for such transactions. A paradoxically positive effect of the current economic crisis and foreign currency shortages was seen in the increased interest in domestic firms and neighbouring countries as sources of supply for inputs for the mining and processing industries.

41. It was stated that scenarios should be elaborated outlining modalities of co-operation based on the realities of each sub-region. It should also be recognized that sub-regional and regional co-operation should take into account trade and exchanges not only of non-ferrous metals, but also other metals and resources.

42. The experience and potential value of producer associations was also discussed, including possibilities for stabilizing prices and markets as well as for making more complete information available to members.

43. An example of new forms of co-operation being developed could be seen in the Law of the Sea Treaty which regulated the exploitation of marine nodules as sources of non-ferrous minerals.

44. One possibility for co-operation was mentioned that could be considered under very specific technical and economic conditions, which was the establishment of joint ventures between producer and consumer countries with jointly owned facilities for product manufacturing in the consumer country.

45. The Expert Group discussed the issue of information related to the non-ferrous metals industries. The importance was emphasized of having access to reliable statistical data on stocks, quantities mined and processed, prices, exports and imports, capacities, etc. The following points were brought up in this context:

(a) It was considered desirable to increase the general availability of information on non-ferrous metals by developing mechanisms for improved collection and dissemination, through a central co-ordinating facility;

(b) It was pointed out that the lack of an adequate form of co-ordination meant that there was a great lack of awareness about existing information, which often led to a duplication of effort in research;

(c) Some of the sources or potential sources of information that were pointed out were producers' associations, state enterprises and government agencies. Co-operation with these sources could make this information more generally available.

46. With regard to the preparations for the First Consultation on the Non-ferrous Metals Industries, the importance of examining the sector not only at the global level but also at the regional and sub-regional levels was emphasized. It was suggested that the preparation of regional studies and the organization of regional expert group meeting should make possible more in-depth analysis of the sector and a better understanding of possibilities for regional and sub-regional co-operation.

47. It was suggested that in preparing studies of the sector, UNIDO could benefit from greater co-operation with other researchers knowledgeable in the subject and to this end should extend its contacts with universities, research institutes, producer associations and other national and international non-governmental organizations in developed and developing countries.

48. In developing a methodology to guide the preparations for the Consultation, UNIDO should follow the subsystemic approach outlined for the present Expert Group Meeting, taking into account not only the non-ferrous metals industries themselves, but also all the upstream and downstream activities as well as those linked horizontally with the sector.

49. It was considered essential to identify the main actors involved in each sub-region (public and private enterprises, national, regional and transnational enterprises), and their roles and strategies in the current and future development of the non-ferrous metals industries as part of the analysis of the possibilities and constraints faced by Governments in establishing their policies in the sector.

Annex I

List of participants

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Annex II

Points for inclusion in the country papers

I. Bibliography and statistics of the country or institution

1. Studies and reports in the field of non-ferrous metals
2. Principal journals in the field
3. Statistics available and period of time covered

II. Factual analysis

A. Mines

1. Investment: amount and origin; level of technology used
2. Production: quantity produced and quantity exported
3. Evolution of export prices
4. Location of the mine(s)
5. If mine is operated by a TNC:
   - type of contract (joint venture, other)
   - share of equity
   - principal product of the TNC
   - secondary products of the TNC
   - diversification
6. If mine is a national enterprise:
   - organization of exports (direct, through trade merchants, through the London market)
   - countries to which ore is exported
   - final uses of the exports
   - if the mineral is not processed domestically, reasons for not having further processing within the country
7. Reserves: initially and in 1985
8. Effects of the mines on the national economy:
   - employment
   - technology transferred
   - qualification of manpower and technical staff
   - development of industries related to the mine
   - effects on the balance of payments (trade and capital)
9. Transportation of minerals: type and origin (national, foreign) of the means of transport used to the port and from the port
10. New mines to be opened (potential, projected)
11. Social legislation related to:
    - working conditions
    - health and safety
    - wage levels

B. Industrial Processing

1. Capital invested: amount and origin (national, foreign), initially and thereafter
2. Debt (national, foreign)
3. Technological level
4. Mineral prices:
   - for export
   - for processing
5. Return on investment

6. Uses of the profits
7. Government subsidies
8. Most recent balance sheet and profit and loss statements
9. Effects on the economy:
   - employment
   - technology transferred
   - qualification of manpower and technical staff
   - development of activities around the plant
   - effects on the balance of payments (trade and capital)
10. New projects
11. Relations between the Government and TNCs
12. Social legislation relating to:
   - working conditions
   - health and safety
   - wage levels

Annex III

List of documents

Prepared by the UNIDO secretariat

The Development and Restructuring of the Non-ferrous Metals Industries	ID/WG.436/1
Mining and Mineral Processing in Developing Countries: S. Zorn, UNIDO Consultant	ID/WG.436/2
The Restructuring Process in the Non-ferrous Metals Industries and the Possibilities for Further Processing of Non-ferrous Metals in Developing Countries: Discussion Paper	ID/WG.436/3
The Consultation Process and Methodological Aspects of Non-ferrous Metals	ID/WG.436/4

Prepared by participants

O Complexo do Aluminio no Brazil: Realidade e Perspectivas nos Quadros do Mercado Mundial: Paulo Bastos Cezar

Bauxite Bargaining: Guinea versus the Multinationals of the Aluminium Industry: Bonnie K. Campbell

Potencial de Chile en Mineria del cobre: Alberto Casal

Les Métaux Non-ferreux dans une Stratégie d'Industrialisation: Questions Préliminaires: Gérard de Bernis

A Survey of Hungary's Non-ferrous Metal Industry: György Dobos

Swedish Non-ferrous Metals Industry: Magnus Ericsson

New Technologies, Industrial Restructuring and Changing Patterns of Metal Consumption: Fernando Gonzales-Vigil

The Non-ferrous Metals Industry of Zimbabwe: Philip Paul Jourdan